

REMARKS

Claims 1-8 are pending in the application. Claims 1-8 are rejected.

Claims 2, 3 and 8 have been cancelled herein.

Claim 1 has been amended and claim 9 has been newly added.

The amendment is based on the description on page 7, lines 16-18, lines 19-24, and page 17, line 11 through page 18, line 18. No new matter is entered.

A. REJECTIONS UNDER 35 U.S.C. § 103(a)

Claims 1, 5, 7 and 8 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Ellington, Jr. et al. (USP 6,175,569) (hereinafter Ellington) in view of Law et al. (USP 6,330,602)(hereinafter Law). Claims 2-4 and 6 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Ellington in view of Law as applied to claims 1, 5 and 7 above, and further in view of Ellesson et al. (USP 6459682).

It is respectfully submitted that the combination of the Ellington and Law references fail to provide many of the limitations of applicants' pending claims.

Law describes managing the volume of traffic and not the character of traffic. That is, even if a burst data transfer is performed or a data transfer rate is constant, the character of traffic is ignored (according to Law,s method) and only the bandwidth is calculated. Accordingly, a statistical multiplexing effect on an ATM network which will be obtained by using VBR services cannot be obtained. The method of Law expends bandwidth for CBR services, and thereby a loss occurs. When the number of connections increases, bandwidth necessary for providing CBR services cannot be secured resulting in performance degradation.

In contrast, applicant's claimed invention has a QoS which an ATM network is to guarantee is determined according to the character of traffic. Necessary bandwidth is calculated and network resources are used effectively. For example Claim 1 has a routing information managing means for managing routing information of the ATM network; wherein the routing information includes at least one of ACR (available cell rate), CTD (cell transfer delay) and CDV (cell delay variation).

Claim 1 also describes managing statistical information on traffic of the LAN; wherein said statistical information managing means manages, as the statistical information, a traffic volume which is a sum of frame sizes or a total number of frames within a fixed time interval and which reflects traffic status of the LAN, and an average traffic volume thereof.

QoS, which the ATM network ought to guarantee, is set based on the statistical information; wherein parameters of the QoS includes at least one of service category which is CBR (Constant Bit Rate) or VBR (Variable Bit Rate), band delay which is CTD, and fluctuation which is CDV. The QoS guarantee determining means for determining based on the routing information whether or not the set QoS can be guaranteed; wherein CBR is judged to be the service category if a maximum traffic volume among the traffic volumes is not greater than the average traffic volume plus $\alpha\%$, and VBR is judged to be the service category if the maximum traffic volume is greater than the average traffic volume plus $\alpha\%$; and wherein a value of CTD is decided in a small value if the service category is CBR and a value is CDB is decided in a small value if the service category is VBR.

Ellington also fails to provide the limitation of managing statistical information between a LAN terminal and another LAN terminal and the limitation of setting QoS, which the ATM network ought to guarantee, based on such measured statistics.

Column 5, lines 10-41 of Law clarifies the depot 54 as: (1) inspecting all packets in both directions at IP and TCP levels; (2) choosing a server based on load balancing criteria for a new TCP session; (3) forwarding TCP packets for existing sessions to the already chosen server; (4) forwarding TCP packets from servers to clients; (5) cleaning up the mapping entry when TCP sessions end; and (6) watch for and handle anomalous TCP packets. Absent in the entire Law reference is any teaching of managing statistical information of a connection between a LAN terminal and another LAN terminal. Where, as the statistical information, a traffic volume which is a sum of frame sizes or a total number of frames within a fixed time interval and which reflects traffic status of the LAN, and an average traffic volume thereof, also where parameters of the QoS includes at least one of service category which is CBR (Constant Bit Rate) or VBR (Variable Bit Rate), band delay which is CTD, and fluctuation which is CDV.

The combination of references also fails to teach managing routing information of the ATM network; wherein the routing information includes at least one of ACR (available cell rate), CTD (cell transfer delay) and CDV (cell delay variation).

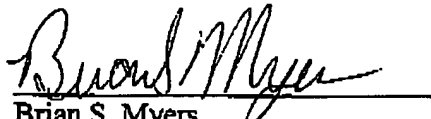
Since QoS is previously set for two or more connections which may be established, based on the traffic of a LAN, a connection with an optimum QoS can be immediately established as a connection within an ATM network based on the traffic of the LAN varying all the time. This can realize efficient internetwork control (see page 31, lines 12-19 of the applicants' specification).

The above-mentioned arguments for independent claim 1 substantially apply to dependent claims 4-7, and 9 as they inherit all the limitations of the claim from which they depend. Because the references (Ellington, Law, Ellesson) fail to disclose the features claimed in claims 1, 4-7 and 9, it is requested the rejections be withdrawn.

In view of the remarks set forth above, this application is in condition for allowance which action is respectfully requested. However, if for any reason the Examiner should consider this application not to be in condition for allowance, the Examiner is respectfully requested to telephone the undersigned attorney at the number listed below prior to issuing a further Action.

Any fee due with this paper may be charged to Deposit Account No. 50-1290.

Respectfully submitted,


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